

This listing of claims will replace all prior versions, and listings, of claims in the application:

**In the Claims:**

1. (CURRENTLY AMENDED) A centrifugal evaporator comprising:

a chamber in which sample containers are carried by a rotor, ~~[[and]]~~  
wherein the rotor is rotatable about a rotor axis and the sample containers are pivotally mounted to the rotor so as to swing up and adopt a generally horizontal attitude to a substantially horizontal orientation as the rotor rotates~~[[,]]; [[and]]~~

a source of ~~infra-red~~ infra-red radiation ~~[[also]]~~ mounted in the chamber so as in use to direct ~~infra-red~~ infra-red radiation towards the rotor and the sample containers carried thereon, to heat at least the latter and any sample material therein for the purpose of evaporating liquid in the sample material~~[[,]]; and~~

further ~~comprising~~ a non-contact temperature sensing ~~infra-red~~ infra-red pyrometer having a sensor with a defined field of view which is mounted in the chamber, such that while the rotor ~~as such~~ is substantially out of its field of view, each sample container at least partly occupies the ~~pyrometer~~ field of view for a part of each rotation of the rotor, and the positions of the ~~infra-red~~ infra-red source and the pyrometer ~~components~~ sensor are selected so that the radiation from the ~~infra-red~~ infra-red source does not impinge on the pyrometer sensor.

2. (CURRENTLY AMENDED) A centrifugal evaporator as claimed in claim 1 wherein the ~~infra-red~~ infra-red source is selected and/or positioned so that in use its radiation predominantly impinges on the sample containers rather than the rotor-as such.

3. (CURRENTLY AMENDED) A centrifugal evaporator as claimed in claim 1 wherein the position of the pyrometer sensor within the chamber is chosen so that the rotor does not protrude into the pyrometer sensor field of view.

4. (CURRENTLY AMENDED) A centrifugal evaporator as claimed in claim 1 wherein the sensor field of view is generally circular ~~and the size of the sensor is such that it can be considered to be a point source/detector~~, and the diameter of the circular field of view increases with distance from the source to define a cone whose apex is at the centre center of the sensor.

5. (CURRENTLY AMENDED) A centrifugal evaporator as claimed in claim 4 wherein the diameter of the cone at any point along its axis is less than or equal to  $1/10^{\text{th}}$  the distance from the point source to ~~[[the]]~~ said point, measured along the axis of the cone.

6. (CURRENTLY AMENDED) A centrifugal evaporator as claimed in claim 1 wherein the rotor axis is vertical and a vertical plane containing the rotor axis and ~~[[the]]~~ a central point of the sensor makes an acute angle to a vertical plane containing the central point of the sensor and ~~[[the]]~~ a central axis of the field of view of the sensor.

7. (ORIGINAL) A centrifugal evaporator as claimed in claim 6 wherein the acute angle is chosen to maximise the period of time for which each sample container is within the field of view of the sensor.

8. (ORIGINAL) A centrifugal evaporator as claimed in claim 7 wherein the acute angle is in the range 10 to 80 degrees.

9. (PREVIOUSLY PRESENTED) A centrifugal evaporator as claimed in claim 1 wherein the direction of rotation of the rotor in the chamber is chosen so that any debris thrown from the rotor during evaporation will tend to be directed away from the sensor, so as generally not to impact thereon.

10. (CURRENTLY AMENDED) A centrifugal evaporator as claimed in claim 1 comprising a temperature sensing ~~means adapted~~ arrangement to measure the temperature of the chamber close to an area of the interior of the chamber wall which is within the field of view of the sensor.

11. (CURRENTLY AMENDED) A centrifugal evaporator as claimed in claim 10 wherein the chamber temperature sensing means arrangement is positioned in the chamber.

12. (CURRENTLY AMENDED) A centrifugal evaporator as claimed in claim 11 further comprising electrical signal processing means circuitry receptive of signals from the ~~[[IR]]~~ infra-red pyrometer sensor and the temperature sensing means arrangement which is adapted to adjust the temperature values from the ~~[[IR]]~~ infra-red pyrometer sensor to take account of the chamber temperature.

13. (CURRENTLY AMENDED) A centrifugal evaporator as claimed in claim 12 wherein a further temperature sensing means arrangement is positioned so as to sense the temperature of a body of the pyrometer sensor and/or of a body of the chamber, and temperature corrections ~~to be~~ are applied to the temperature data from the ~~[[IR]]~~ infra-red pyrometer sensor and/or the chamber temperature sensing means arrangement with reference to signals from the further temperature sensing arrangement.

14. CANCELED.